DOCUMENT RESUME

ED 441 020 TM 030 818

AUTHOR Anderson, Patricia N.
TITLE Cost Perception and the Expectancy-Value Model of Achievement Motivation.
PUB DATE 2000-04-24
NOTE 6p.; Paper presented at the Annual Meeting of the American Educational Research Association (New Orleans, LA, April 24-28, 2000).
PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Achievement Need; *Costs; *Expectation; *Graduate Students; Graduate Study; Higher Education; Sex Differences; *Student Attitudes; Values

ABSTRACT

The expectancy-value model of achievement motivation, first described by J. Atkinson (1957) and refined by J. Eccles and her colleagues (1983, 1992, 1994) predicts achievement motivation based on expectancy for success and perceived task value. Cost has been explored very little. To explore the possibility that cost is different from expectancy and exerts its own influence on achievement motivation, 55 graduate students were surveyed about their inclination to attend the conference of the American Educational Research Association, held in their city. They were asked about their expectancy and economic, time, and psychological costs. Cost was a readily identifiable factor in participants' consideration of conference attendance, and the three categories formed distinct concepts for participants. When the attitudes of the seven students who did attend the conference, and those of the seven who thought they would, but did not, were examined, achievement choice of men was seen to be relatively unaffected by value or cost, and achievement choice of women was significantly related to attainment value. (SLD)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 441 020

Cost Perception And The Expectancy-Value Model of Achievement Motivation

Patricia N. Anderson

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)
✓ This document has been reproduced as
received from the person or organization
originating it.
☐ Minor changes have been made to
improve reproduction quality.
• Points of view or opinions stated in this
document do not necessarily represent
official OERI position or policy.

P. Anderson

TM030818

BEST COPY AVAILABLE

Cost Perception And The Expectancy-Value Model Of Achievement Motivation

A Roundtable Discussion Presented at the 2000 Annual Meeting of the
American Educational Research Association
New Orleans, Louisiana
April 24, 2000
by
Patricia N. Anderson, Ed. D.
National-Louis University
122 S. Michigan Avenue
Chicago, IL 60603

The expectancy-value model of achievement motivation, as first described by Atkinson (1957) and expanded and refined by Eccles and her colleagues (Eccles, 1984; Eccles, Adler, Futterman, Goff, Kaczala, Mecce & Midgley, 1983; Wigfield, 1994; Wigfield & Eccles, 1992), predicts achievement motivation based on expectancy for success and perceived task value. The model posits that if one values a task or task outcome and feels capable of its successful accomplishment, one will be motivated to undertake the task. But what about valued and do-able tasks one nevertheless does not attempt? What inhibits a valued course of action?

The concept of cost was introduced by Eccles (Eccles et al.,1984) as part of exploration of the value portion of Atkinson's original equation. Eccles proposed that the global concept of value can be subdivided into four components: interest, utility, attainment value, and cost. Eccles and Wigfield (Wigfield & Eccles, 1992; Eccles & Wigfield,1995) explored the first three value components in numerous studies, primarily with school children. Their research indicates the separate effect of interest, utility and attainment value on achievement motivation, and that each emerges separately as children develop. Eccles and Wigfield also found that gender and social roles seem to affect value perception.

Cost, however, has been explored very little. Although Eccles mentions cost in her original partitioning of the value concept (Eccles et al., 1984), it is not explained in greater detail in subsequent work. Yet personal experience belies the action of cost perception in impeding otherwise valued activities. Indeed, regret theory (Loomes & Sugden, 1982) is based on the idea of valued tasks that are nonetheless deferred, and the familiar "cost-benefit ratio" is a staple of economic thought (Clark & Veseth, 1987). So how does cost fit into the expectancy-value equation?

Two possibilities seem likely. On the one hand, "cost" may simply be a name for a competing valued task, one with more or less salience in comparison to the valued task under consideration. In this analysis, cost is the label applied to the process of selection from among positives, and "value" can have both positive and negative valence.

Alternatively, cost may be a component in its own right, distinct from value and operating on achievement in a specific way. In this conception, cost analysis is a separate step from the value judgement Eccles describes. In an effort to shed light on the possible locus of

cost, a study was undertaken to explore this second possibility, that cost is different from value and expectancy and exerts its own influence on achievement motivation.

Fifty-five graduate students (34 women and 21 men) were surveyed on their inclination to attend the national conference of the American Educational Research Association, which was held in their city that year. They were asked to respond to five-point Likert-scale questions regarding their goals in attending the conference and their expectancy for success in those goals and their value for the conference, especially with reference to attainment value, utility, and interest. And they were asked about anticiapted costs of attending the conference. To help the study participants to conceptualize cost, the cost questions also referenced three categories: economic cost, time cost, and psychological cost.

Economic cost was included because it is the first thing people think of when "cost" is mentioned. Time cost and psychological cost were both hinted at by Eccles in her previous research. In addition to the scaled-response items, several open-ended questions were asked. Responses to these questions were later coded for congruence to model components.

The surveys, along with a questionnaire seeking demographic data, were completed in class by the graduate students. After the AERA conference, the same students were surveyed again, either in class or by telephone. They were asked whether they had attended the conference, and whether this attendance choice was in accordance with their previous expectations or was a change of mind.

Here is what was found. Cost was a readily identifiable factor in participants' thinking about AERA attendance. It was mentioned spontaneously in response to open-ended questions and was perceived in response to Likert-scale questions to be at least moderately influential in a decision to attend the AERA conference.

Also, the three proposed categories of cost formed distinct concepts for participants. Time cost was statistically significantly different from economic and psychological cost. Although economic and psychological costs did not appear to be separable in response to Likert-scale questions, open-ended responses did indeed indicate that partcipants saw economic cost and psychological cost as different categories. A Cost x Gender ANOVA indicated that females and males perceived psychological cost significantly differently, while both genders viewed economic costs similarly.

It seemed then, that cost was a coherent concept for partcipants and one that they felt had relevance to an achievement-related decision. However, in addition to being a recognizable concept, could cost exert influence on achievement independent of the influence of values and expectancies? Further analysis of the data seemed to indicate that it could.

Correlational analysis indicated that neither cost categories nor a summed value representing "total cost" was related to value components or to expectancy for success. This is interesting, since if cost were the inverse of value or an expression of competing values, as Eccles and Wigfield suggest, then one would expect negative correlations between the two components. In this study, only interest was significantly related to achievement choice.

although time cost approached a significant relationship. In general, cost components showed a very weak negative correlation to achievement choice. This relationship was not significant, but trended in the expected direction.

If cost is an identifiable concept in relation to achievement choice, and is distinguishable from other achievement-choice factors of value and expectancy, does cost influence achievement choice? Regression analysis of model components indicated that time cost and interest value were significant predictors of achievement choice, and overall, that cost is indeed part of a predictive model of achievement choice. This is supported also by an examination of comments made by individuals who changed their minds about attending the conference. There were seven participants who first thought they would attend the conference, but then did not. All of these indicated that an increase in perceived costs influenced their decision to not attend. One participant who originally believed she would not attend the conference changed her mind and did attend. This person said that the reason for her attendance was an unexpected break in work responsibilities, leading to reduced time cost for conference attendance.

Looking more closly at the seven partcipants who did attend the conference, and the seven participants who thought they would attend but actually did not, some interesting patterns emerge. Value and cost perceptions between groups were not significantly different, and for those who did not attend, value and cost perceptions were quite similar. However, value and cost perceptions were significantly different for those who did attend.

A second set of regression analyses, separate by gender, indicated that while achievement choice of men was relatively unaffected by either value or cost, achievement choice of women was significantly related to attainment value, and approached a significant relationship to psychological cost. Further, it was expected that the more social roles an individual claimed, the higher his or her perception of the costs of conference attendance. This was true for men, but not for women: for women, the more roles claimed the more likely was expressed interest in conference attendance, and cost perception was independent of the number of roles claimed by women.

This study gathered data on a very small number of participants. It offered them an achievement decision that was unfamiliar to many of them, and which may have been viewed as a social or intellectual event rather than an opportunity for achievement. The number of participants who actually chose to "achieve" by attending the conference was very, very small. Nonetheless, cost did emerge as an independent component of participants' decision-making and part of a prediction model of achievement choice. Moreover, cost as a unitary concept emerged with some complexity, capable of categorization into at least three parts: economic cost, time cost, and psychological cost. It seems clear that high value for an achievment task and great expectation for success in that task are not enough to predict commitment to the task. It is not enough for educators and others concerned with achievement to try to increase perceived task value and to bolster students' expectancies for success. These are important but they are not enough. One must also look at the barriers, the perceived costs, that inhibit achievement choice.

The data suggest that these costs look different to females than to males. There is some hint that patterns of cost perception may change with the achievement task. To encourage

achievment choice, it is important to not only enhance or make plain the values inherent in task accomplishment and the individual's rightful expectation for success, but to also anticipate what costs are likely to most salient in this situation and for this individual, and seek ways to ameliorate those specific effects.

This study raises more questions to pursue. Is cost perception developmental, like perception of other expectancy-value model components? It is reasonable that cost perception might depend upon the development of perspective-taking, attributed by Piaget to late childhood. Cost perception seems to involve the ability to look into the future and weigh outcomes of aternative choices. Unlike value or expectancy for success, which seem to produce absolute appraisals, cost perception seems to involve a comparison of possible outcomes. Among those who changed their minds about conference attendance, it was not value perception or expectancies that changed, but perception of cost.

If cost perception is developmental, how does cost affect achievement across the lifespan? How does it relate to research into "future time perspective" and to regret theory? Given the salience of time cost in this study, does perception of time cost increase with age, and is psychological cost more keenly felt by adults with young families - and vulnerable to feelings of anxiety, guilt, and conflict? What is the effect of gender in development of cost perception?

This study attempted to demonstrate that cost is a discrete component of the expectancy-value model of achievement motivation. This seems to be so. Personal experience tells us that costs exert an influence on choice and timing of achievment tasks. This study confirms this intuitive understanding, and expands on Eccles' original suggestion that cost plays an important role in the expectany-value model.

References

Atkinson, J. W. (1957). Motivational determinants of risk-taking behavior. Psychology Review, 64, 359-372.

Clark, J. R. & Veseth, M. (1987). Economics: Cost and choice. NewYork: Harcourt Brace Jovanovich.

Eccles, J. S. (1984). Sex differences in achievement patterns. In Sonderegger, T. (Ed.), Nebraska symposium on motivation (Vol. 32). Lincoln, NE: University of Nebraska Press.

Eccles, J. S., Adler, T. F., Futterman, R., Goff, S. B., Kaczala, C. M., Meece, J. & Midgley, C. (1983). Expectancies, values and academic behaviors. In Spence, J. T. (Ed.), Achievement and achievement motives. San Francisco: W. H. Freeman.

Eccles, J. S. & Wigfield, A. (1995). In the mind of the actor: The structure of adolescents' achievement task values and expectancy-related beliefs. Personality and social psychology bulletin, 21, 215-225.

Wigfield, A. (1994). Expectancy-value theory of achievement motivation: A developmental perspective. Educational Psychology Review, 6, 49-78.

Wigfield, A. & Eccles, J. S. (1992). The development of achievement task values: A theoretical analysis. Developmental review, 12, 265-310.